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that no less than five species of ferns* have been discovered within the geographical limits adopted for Gray's Manual, since the publication of the last edition, is sufficient evidence that our botanists are neither idle nor allowing much territory to remain unsearched.

New York State, from its diversity of favorable conditions, can justly claim the first rank in the richness and extent of her fern treasures. Other States may surpass her in a singular particular: Alabama produces the smallest fern (*Trichomanes Petersii*); California produces the richest, in the "golden-back" (*Gymnogramme triangularis*); Florida produces the most anomalous, in *Vittaria*, *Ceratopteris* and *Ophioglossum palmatum*; but no State can excel New York in number of species, variety, richness or profusion.

The States which approach nearest in number of species are California and Florida. The former has the advantage of an extent of ten degrees of latitude against four degrees in New York, and the nearer approximation to an insular climate which favors fern growth. The latter (Florida) has the advantage of a semi-tropical climate peculiarly adapted to this order of plants.

It would be interesting to compare the fern growth of all our States and Territories, yet this can hardly be done in the present state of our knowledge of distribution. The following, however, may be safely compared: New York, 52 species; California, 46 species; Florida, 42 species; Kentucky, 39 species; Illinois, 37 species; Arkansas, 37 species; Michigan, 30 species; Texas, 27 species; and Arizona, 24 species.

Of the forty-six species found in California, ten are shared in common with New York, and fourteen of the Florida species also occur in New York. Of the thirty-one genera of American ferns, nineteen are found within the limits of New York; Florida can boast an equal number, yet she monopolizes all the species of five genera, viz.: *Acrostichum*, *Vittaria*, *Blechnum*, *Ceratopteris* and *Nephrolepis*. California has representatives of only seventeen genera.

The list† enclosed gives the ferns of New York State as far as known.

Bloomington, Ill.

LUCIEN M. UNDERWOOD

§ 74. **Note on *Mertensia Virginica*.**—The account of *Mertensia Virginica*, DC. (*Pulmonaria* of Linnaeus), in the May number of the BULLETIN, by my friend Dr. Lockwood, of Freehold, N. J., is very interesting.

It is, indeed, a thing to excite wonder that this plant, so often found in cultivation, should not have firmly established itself in New Jersey, which possesses a climate and a soil so favorable to its growth.

Its home is in the South-west; but it has grown freely without

**Adiantum Capillus-Veneris*, L., *Asplenium viride*, Huds., *A. Bradleyi*, Eaton, *Woodsia hyperborea*, R. Br., and *Botrychium matricariaefolium*, R. Br.

†As the list sent by Prof. Underwood is, with few exceptions, the same as one given by us on page 268, Vol. vi, of the BULLETIN, we have thought it unnecessary to repeat it here. The additions made by him to that list are *Asplenium Bradleyi* and *A. ceboides* (detected within the State more recently), and the varieties *obliquum* and *dissectum* of *Botrychium ternatum*. The latter we inadvertently omitted.—EDS.

cultivation for years in Eastern Pennsylvania, a few miles west of the Delaware River.

Years ago it grew in the fields near Worth's Mills, south of Princeton, from which it has totally disappeared, no trace of it being now to be found in all that region. Its presence near Walnford is no doubt due to the introduction from the West of seeds in grain, the most efficient agent for plant distribution in all cultivated regions. The strong roots alluded to by Dr. Lockwood are common to many herbaceous perennials.

White Plains, N. Y.

O. R. WILLIS.

§ 75. *Tiarella cordifolia*.—I should be glad to know whether this plant ever seeds freely anywhere; whether there are often more than one or two seeds in a capsule; whether it is often seen with leaves on the scape; and whether, when the scape is foliaceous, it is more or less productive than in its usual state? Some facts noted on the plant in North Carolina, and which I hoped to re-examine in northern plants this season, lead me to make these inquiries. So far, this year, I have only been able to observe a few cultivated plants.

Germantown, Philadelphia.

THOMAS MEEHAN.

§ 76. **The Herbaria and Botanical Libraries of the United States, VII.**—THE MUHLENBERG HERBARIUM.—Rev. Henry Muhlenberg, D.D., was one of the earliest American botanists, and by his careful training in the schools of Germany, was specially fitted for successful work in a field where qualified laborers were rare. His death, which occurred May 22, 1815, at the comparatively early age of 62, was a great loss to the scientific world. Among his intimate friends and correspondents was Zaccheus Collins, a merchant of Philadelphia, well known in his day as a promoter of good works, and as an assiduous cultivator of natural science. The efforts of Mr. Collins, seconded by the influence of Dr. Wistar, Mr. Vaughan and others,* secured the sum of five hundred dollars for the purchase from the son, Dr. F. A. Muhlenberg, of his father's herbarium for the American Philosophical Society in Philadelphia, which, in 1816, received possession and still retains it.

With good judgment, that Society has not permitted the arrangement to be disturbed, and it remains as left by the original owner. The phanerogamic plants and the ferns are enclosed in boxes or wooden books with sliding covers, and the plants are laid in sheets of the diminutive size usual in early herbaria. The lower cryptogamic plants are in smaller paste-board envelopes, and are accompanied with lists. The arrangement, of course, is that of the Linnaean sexual system, and as this is one of the few collections which illustrate the early history of American botany, it is hoped that this arrangement will not be changed. The plants are mostly in fair preservation.

The collection has great interest as connected with the labors of

*In the Collins correspondence, in possession of the Academy of Natural Sciences, is the rough draft of a subscription-paper which gives reason to believe that the contributors to the purchase were Wistar, Collins, Vaughan, Pollock, Short, Dorsey, James, Chapman and Tighman.